

Claims

What is claimed is:

1. A high-pressure discharge lamp for motor vehicle headlamps, which includes the following features:
 - a discharge vessel, which has a tubular section which consists of a transparent ceramic and the internal diameter of which is less than or equal to 2.0 mm;
 - two electrodes for generating a gas discharge, which are enclosed in a gastight manner in the discharge vessel and the discharge-side ends of which are arranged opposite one another in the tubular section, with the result that the distance between the discharge-side ends of the electrodes is less than or equal to 10 mm, and
 - an ionizable mercury-free fill which is enclosed in the discharge vessel, is used as a discharge medium and consists of xenon with a cold filling pressure of at least 2 000 hPa and metal halides.
2. The high-pressure discharge lamp as claimed in claim 1, wherein the tubular section is a single-crystalline tube made from sapphire.
3. The high-pressure discharge lamp as claimed in claim 2, wherein the discharge vessel has closure pieces which are made from polycrystalline aluminum oxide and are provided with supply conductors for the electrodes, the closure pieces each having a recess for receiving in each case one end of the tubular section, the internal dimensions of the respective recesses being matched to the external diameter of the corresponding end of the tubular section and the closure pieces being fixed to the corresponding end of the tubular section by a sintered joint.
4. The high-pressure discharge lamp as claimed in claim 3, wherein at least part of the outer surface of the closure pieces is provided with an opaque coating.

5. The high-pressure discharge lamp as claimed in claim 1, wherein at least the tubular section of the discharge vessel consists of yttrium aluminum garnet, aluminum oxinitride or ytterbium aluminum garnet.

5 6. The high-pressure discharge lamp as claimed in claim 1, wherein the outer surface of the discharge vessel, outside the cylindrical section, is at least in part provided with an opaque coating.

10 7. The high-pressure discharge lamp as claimed in claim 4 or 6, wherein the coating is formed to be thermally conductive.

8. The high-pressure discharge lamp as claimed in claim 1, wherein the discharge vessel is surrounded by an outer bulb.

15 9. The high-pressure discharge lamp as claimed in claim 8, wherein the outer bulb is evacuated.

20 10. The high-pressure discharge lamp as claimed in claim 1, wherein the metal halides comprise halides of the metals sodium, dysprosium, holmium, thulium and thallium.

25 11. The high-pressure discharge lamp as claimed in claim 10, wherein the halides are iodides, the relative proportions of sodium iodide, dysprosium iodide, holmium iodide, thulium iodide and thallium iodide in the total quantity of iodide being selected in such a manner that the color temperature of the light emitted by the lamp is between 3 500 Kelvins and 5 000 Kelvins.